

CLAIMS:

- Sub B1
- 009060" 28T95960
1. A method of operating a cooling tower, comprising feeding to said cooling tower a make-up stream of water containing organic and/or biological contaminants, causing a side stream taken from the recirculating stream to pass through an electrolytic cell, removing solids precipitating by the action of said cell, and remixing said treated side stream with the main stream, before feeding them to the cooling tower.
  2. A method according to claim 1, further comprising oxidizing the recirculating water by the addition of an oxidizing material.
  3. A method according to claim 2, wherein the oxidant is added in an amount suitable to maintain the Redox potential at the inlet of the cooling tower in the range of about 300 - 400 mV.
  - A 4. A method according to claim 2 ~~or 3~~, wherein the oxidant is selected from among NaClO, TCCA, BCDMH, Br<sub>2</sub> and Cl<sub>2</sub>.
  - A 5. A method according to any one of claims 1 ~~to 4~~, further comprising adding a non-oxidizing biocide to the recirculating stream as an aid in the prevention of biofouling.
- Sub B2

6. A method according to claim 5, wherein the biocide is added when the Redox potential decreases to a value of about 200 mV or less.

A 7. A method according to claim 5 ~~or 6~~, wherein the biocide is selected from among phenolic biocides, quaternary amines, triazolin, DBNPA (dibromonitrilpropionamide), MIT (methyl izothiazolinone) or MBT.

8. A method according to ~~any one of claims 1 to 7~~, wherein the COD of the make-up stream is between about 500 and over 2,000 ppm.

9. A method according to claim 8, wherein the COD of the make-up stream is between 500 and 1000 ppm.

A 10. A method according to ~~any one of claims 1 to 9~~, wherein the Redox potential of the stream entering the cooling tower is in the range 300 - 400 mV.

11. Cooling tower system comprising, in combination with suitable inlets and outlets:

- a cooling tower;
- a heat-exchanger;
- an electrolytic cell; and
- at least one filter.

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Sub B3

A  
Sub B4

Sub B4

12. A method for concentrating waste water, comprising feeding said waste water to a cooling tower, causing a side stream taken from the recirculating stream to pass through an electrolytic cell, removing solids precipitating by the action of said cell, and remixing said treated side stream with the main stream, before feeding them to the cooling tower.

13. A method according to claim 12, wherein the treated side stream leaving the electrolytic cell is further filtered to remove carried over solids.

14. A method according to claim 13, wherein the filter is a sand filter, with backwash.

15. A method of operating a cooling tower, essentially as described and illustrated.

16. A method for concentrating wastewater, essentially as described and illustrated.

Sub B5

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